REMARKS

Claim 10 is amended. No new matter is being presented.

Rejection of Claims under 35 U.S.C. § 112

Claim 10 is rejected under 35 U.S.C §112, second paragraph. Claim 10 is amended and is believed to overcome the rejection. Thus, withdrawal of the rejection under 35 U.S.C §112 is respectfully requested.

Rejection of Claims under 35 U.S.C. § 102

Claims 1-2, 4-5, 7, 9-11 stand rejected under 35 U.S.C. §102(b) as being anticipated by Grob et al. The Examiner states that Grob et al. discloses the claimed limitations of the cis and trans isomers. Applicants respectfully disagree.

The publication of Grob et al. discloses the production of cis-3,3,5-trimethyl-cyclohexyl formiate (substance 29c). This substance is produced by reacting a cis-alcohol with formic acid. The reaction product is then extracted using a Vigreux distillation column (see page 1394, 2nd paragraph after "Experimenteller Teil"). "The etheric solutions (and the pentane extracts, respectively) have been processed as usual" denotes that the solution was washed neutrally with water and dried over sodium sulphate, ether (and pentane, respectively) was removed by distillation using a 30 cm Vigreux column.

The raw product yield is 88.3 %, after distillation a yield of 85,4 % of cis-formiate 29c is obtained. However, Grob et al. does not indicate whether any by-products of this reaction exist. The cis-product of Grob et al. is obtained by reacting a cis-alcohol with formiate and for the production of a trans-product, the authors use a trans-alcohol (see page 1399, next paragraph).

One skilled in the art is aware of the fact that distillation always entails some material loss, for example, because of residue attached to the distillation column or in the distillation vessel. A material loss of 150 mg (3 %) as observed by Grob et al. is a sign of a very efficient distillation and cannot be attributed to by-products. Furthermore, the material remaining in the distillation column and distillation vessel cannot have been the trans-isomer, as the boiling point of the trans-isomer is 2°C lower than that of the cis-isomer. Thus, when evaporating the cis-isomer during distillation, any trans-isomer necessarily would have been also volatilized. However, the authors do not observe any presence of the trans-isomer.

Applicants' note that a 30 cm Vigreux distillation column cannot be used to separate cis- and trans-isomers. According to "Organikum" (VEB Deutscher Verlag der Wis-senschaften, Berlin 1971, 9. Auflage, page 57, German copy attached) and known to those skilled in the art, the height equivalent to a theoretical plate of a Vigreux column is at least 5 cm. A 30 cm Vigreux column as used by Grob et al. thus has a maximum theoretical plate number of 6. However, to separate 2 components having a boiling point difference of 2°C at least 40 theoretical plates are required (see figure A.66 of the attachment). It is not possible to separate the cis- and trans-isomers by a Vigreux column based on the disclosure of Grob et al. Thus, Grob et al. fails to disclose any trans-isomer, as claimed by Applicants.

As Grob et al. fails to disclose or suggest each and every element as recited in the independent claims, it cannot anticipate those claims. Thus, withdrawal of the 35 U.S.C. §102(b) rejections is respectfully requested.

Rejection of Claims under 35 U.S.C. § 103

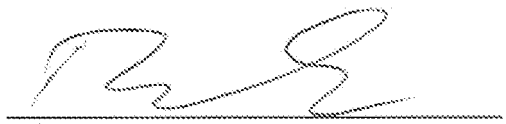
Claims 1-2, 4-5, 7, 9-18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rhode et al. (hereinafter "Rhode") in view of Emura et al. (hereinafter "Emura"). As the Examiner acknowledged, Rhode fails to disclose the esters being either cis or trans as well as the ranges of at least 80% of the cis-esters and less than 20% of the trans-ester. However, the Examiner cites Emura for allegedly disclosing the use of high cis to trans ratio of "analogous perfuming materials."

With respect to Emura, it is directed specifically to 4-t-butylcyclohexanol acetate. Emura makes a general passing reference to a monograph by S. Arctander that allegedly details cis isomers having better fragrance qualities than trans isomers (col. 1, lines 20-26). Based on this, Emura concludes that 4-t-butylcyclohexanol acetate with an elevated cis content to be utilized in the perfurme industry. However, Emura makes no reference to the claimed esters. One skilled in the art, based on the passing reference in Emura to S. Arctander's monograph, would not expect all "perfuming material" to have similar properties. It can only be by impermissible hindsight that the Examiner uses the passing disclosure of Emura (for a higher cis content of 4-t-butylcyclohexanol acetate) in combination with Rhode to render obvious the claimed invention.

Thus, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. §103(a).

Prompt and favorable examination on the merits is requested.

For the Applicants,



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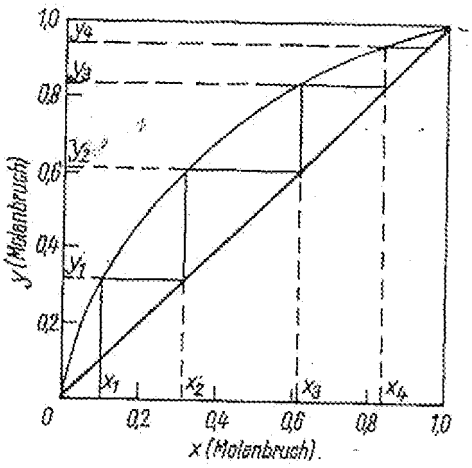

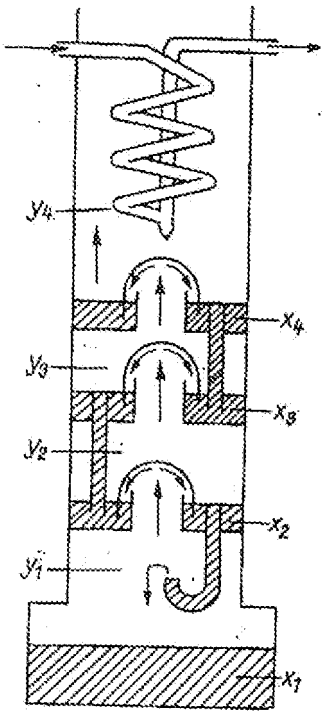

Bild A.65. Graphische Bestimmung der theoretischen Bodenzahl

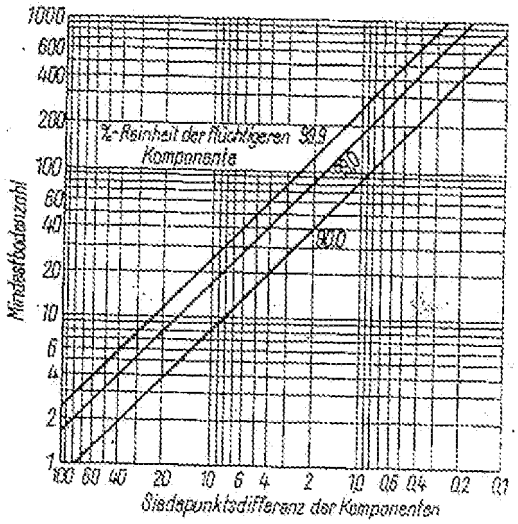

Bild A.66
Bestimmung der theoretischen Bodenzahl aus der Siedepunktsdifferenz der Komponenten

Tabelle A.76
Kolonnentypen

Kolonnenart	Durchmesser [mm]	Belastung [ml/h]	Trennstufenhöhe [cm]	Bemerkungen
Leeres Rohr	24 6 6	400 115 10	15 15 1,7	Geringer Betriebsinhalt und geringer Druckverlust. Gut geeignet für Vakuum und Halbmikrodestillation. Geringe Wirksamkeit. Extrem niedrige Belastungen und damit gute Wirksamkeit nur sehr schwierig realisierbar. Wirksamkeit sinkt mit steigendem Durchmesser (warum?).
Vigreux-Kolonne (Bild A.73)	24 12 12	510 294 54	11,5 7,7 5,4	Ähnliche Daten wie leeres Rohr, aber durch größere Oberfläche etwas bessere Wirksamkeit, höherer Betriebsinhalt und Druckverlust. Geeignet für Vakuum- und Halbmikrodestillationen.
Füllkörperkolonne mit Glaskugeln 3 × 3 mm	24	100 ... 800	6,0	Hohe Belastbarkeit bei Normaldruck. Wirksamkeit weitgehend unabhängig von Belastung. Großer Betriebsinhalt. Für Vakuum und Halbmikromengen ungeeignet.
Füllkörperkolonne mit Sattelkörpern (Porzellan) 4 × 4 mm 6 × 6 mm (Bild A.75c)	 30 30	 400 400	 5,3 8,2	Für Grobvakuum besser geeignet als die anderen hier angeführten Füllkörper (geringer Strömungswiderstand). Hohe Belastbarkeit. Großer Betriebsinhalt.
Füllkörperkolonne mit Raschig-Ringen 4,5 × 4,5 mm (Bild A.75a)	24 24 24	600 500 400	8,2 7,6 7,0	Geringste Wirksamkeit von allen Füllkörpern. Für Vakuum schlecht geeignet. Großer Betriebsinhalt.